

pinastri (L.), *Eilema depressa* (Esp.), *Aporophyla nigra* (Haw.) and *Chloroclysta siterata* (Hufn.)— B. K. WEST, 36 Briar Road, Dartford, Kent DA5 2HH.

EDITORIAL NOTE: Records of Black Arches *Lymantria monacha* in Hertfordshire and Middlesex appear to confirm B. K. West's supposition that this species is extending its range. In these two counties, the species began to appear during 1997 and 1998 at well-recorded sites from which it had until then been apparently absent (see discussion and distribution map in Plant, 1999. *London Naturalist* **78**: 147 – 171). In Hertfordshire alone, published records suggest (Foster, 1937. *Trans. Herts Nat. Hist. Soc.*) that it was widespread in the older woodlands of southern Hertfordshire from around 1890 to the 1930s (though this is supposition as Foster's records were seldom accompanied by dates). However, in the years from about 1950 to 1970 there were reports from only four sites. In the years 1997 to 2003, on the other hand, the Herts Moth Database shows records from no less than 60 sites and these are spread across the entire county including the largely oak-free northern half, on the border with Cambridgeshire, suggesting that some other trees or trees and being used by the larvae. I have recorded larvae feeding on Hornbeam in Hertfordshire in 2000.— COLIN W. PLANT

Some observations on moths nectaring at flowers

Like many entomologists, I have piles of diaries, field note-books and files stacked full of interesting observations which I have never reported. The writing of the new Field Guide to Moths (Waring, Townsend & Lewington, 2003) provided an all too brief opportunity to re-examine some of these accumulated data. One of the topics I seem to have recorded a lot of information about and never brought together concerns moths nectaring at flowers at dusk and after dark. A brief search of the standard textbooks of the last 150 years shows that many include a short discourse on the value of examining natural attractants including flowers, over-ripe fruit, aphid honeydew and oozing sap when searching for moths. Generally, the merits are extolled of investigating catkins of willows such as Goat Willow *Salix caprea* in the spring, Ivy blossom *Hedera helix* in the autumn, and plants such as Ling Heather *Calluna vulgaris* and Common Ragwort *Senecio jacobaea* in the summer, Honeysuckle *Lonicera periclymenum* for long-tongued hawk-moths such as the Large Elephant Hawk *Deilephila elpenor*, along with inspections of naturalised exotics such as Buddleia *B. davidii*, Red Valerian *Centranthus ruber* and garden cultivars of Tobacco plant *Nicotiana* spp. and Phlox *Phlox paniculata*. If you want more detail on which species visit what and when, one of the best sources is still J.W. Tutt's "Practical Hints for the Field Lepidopterist (1901-1905, reprinted by the AES in 1994), which is always a source of inspiration and fascination. Having re-read the above and conducted a brief computer literature search, which of course failed to find the myriad of relevant observations included in reports of field meetings and excursions in the entomological journals, I include the following thoughts and observations as a small and possibly preliminary contribution to

compliment others on the subject, and in the hope that it will stimulate others to report the more interesting of their discoveries.

Numbers of moths visiting flowers after dark

First I find that the numbers of moths seen visiting flowers are seldom reported. On a good night considerable numbers can be seen. For example, on the night of 31 July 1984 I counted the following moths nectaring at the flowers at 22.00 hours, just after dusk, on a 100 metre by 3metre stretch of a somewhat larger stand of flowering Creeping Thistle *Cirsium arvensis* growing along the main north-south ride through the centre of Waterperry Wood in Oxfordshire:

Mottled Beauty *Alcis repandata* 17 individuals, Common Footman *Eilema lurideola* 13, Small Fan-footed Wave *Idaea biselata* 9, Common Wave *Cabera exanthemata* 8, July Highflyer *Hydriomena furcata* 7, Rosy Footman *Mitochrista miniata* 4, Maiden's Blush *Cyclophora punctaria* 3, Dunbar *Cosmia trapezina* 2, Common Emerald *Hemithea aestivaria* 2, Common Rustic/Lesser Common Rustic *Mesapamea* agg. 2, Dark Umber *Philereme transversata* 1, Snout *Hypena proboscidalis* 1. Total 68 macro-moths of 12 species.

The previous night had seen the first significant rain for weeks. It remained cloudy that morning, clearing to a sunny warm afternoon and a clear, still evening with an air temperature of 12°C and a new crescent moon when the above count was made. The results demonstrate that geometrid moths are sometimes much more numerous than noctuids in visiting flowers and that arctiids such as the Common Footman also can be frequent.

Comparison with moths at sugar

The moths visiting flowers on a particular night can be quite a different range of species to those visiting sugar, wine-ropes and other such baits on the same night. For example, on the same night the above count was made on flowers, I painted single vertical sugaring strips 30 cm × 2 cm on the trunks of 15 trees along the edge of the same woodland compartment. The sugaring mixture comprised Fowler's black treacle, stale Guinness beer and a couple of drops of amyl acetate. About thirty moths of five species were recorded, as follows:

Common Rustic/Lesser Common Rustic 1 or 2 per strip, Dark Arches *Apamea monoglypha* 1, Herald *Scoliopteryx libatrix* 1, Smoky Wainscot *Mythimna impura* 1, Heart and Dart *Agrotis exclamationis* 1.

The sugar attracted only noctuid moths and only one of the species seen at the flowers, even though the most numerous moths on the flowers were geometrids and arctiids. I have recorded a few of the latter, and of other families such as the Thyatiridae, at this particular blend of sugaring mixture on other nights, but it seems general experience that noctuid moths overwhelmingly predominate at this type of attractant.

Flower inspection for recording less frequent moths

Although the majority of species seen visiting flowers are likely to be those also numerous at light-traps in the same habitat, less frequently seen species also turn up

regularly, such as the Dark Umber above, so a search of the flowers in the neighbourhood is always worthwhile to compliment light-trapping and other field techniques. Examination of flowers such as Lesser Burdock *Arctium minus* and Teasel *Dipsacus fullonum* can be the best way of seeing the Square-spotted Clay *Xestia rhomboidea* early in the night because it has proved to be generally a late arrival at light-traps, often not entering them until well after midnight and thus being missed by some people who do not trap all night (see *British Wildlife* **14**: 134).

There are some well-known reports of flowers used as day-time lures for particular species, such as the Broad-bordered White Underwing *Anarta melanopa*, which can be attracted by taking scented garden flowers such as Cherry Laurel *Prunus laurocerasus* up into its montane moorland habitats. The same technique has been used for the Bee Hawk-moths *Hemaris* spp. in the lowlands. Clearwing moths are sometimes found at flowers such as Common Hawthorn *Crataegus monogyna*.

Moths visiting flowers of grasses and reeds

I have often seen moths such as the Angle Shades *Phlogophora meticulosa* and various of the wainscots such as the Smoky Wainscot, Common Wainscot *M. pallens* and Striped Wainscot *M. pudorina* visiting the flower-heads of grasses in meadows and sand-dunes, and of Common Reed *Phragmites australis* in fens. Frequently such flower-heads are found to be sticky with the products of ergot fungus, which is the reason the moths are visiting them, as Angus McCrae and I discovered for ourselves about twenty years ago, never got round to publishing at the time, but which was subsequently reported via Jon Clifton (*Atropos* **10**: 53).

A few interesting records of nectaring moths

The extent to which moths show preferences for particular species of nectar flowers is likely to vary from one species to another. Some are not very choosy. The subject of flower selection and preference has received much more attention from butterfly enthusiasts. Factors such as proboscis length and the dimensions of flowers are important, colour and scent may be and of course not all flowers produce nectar, and some only at certain times of the day or night. In my own garden, it is obvious that Gatekeeper butterflies *Pyronia tithonus* mainly visit our Fleabane *Pulicaria dysenterica* and are seldom seen on the Hemp Agrimony *Eupatorium cannabinum* flowering alongside at the same time, and much loved by nymphalids such as the Peacock *Inachis io* and Red Admiral *Vanessa atalanta* which show little or no interest in the Fleabane, although the Painted Lady *V. cardui* and Small Tortoiseshell *Aglais urticae* sometimes visit Fleabane as well. At night the Hemp Agrimony flowers are alive with moths. A typical evening on my two garden clumps, each roughly 2m x 2m, on 27 July 2003, produced Mother of Pearl *Pleuroptya ruralis* 6, Common Rustic/Lesser Common Rustic 2, Common Carpet *Epirrhoe alternata* 2, Riband Wave *Idaea aversata* 1, Yellow Shell *Camptogramma bilineata* 1, Silver Y 1, Garden Pebble *Evergestis forficalis* 1. The Fleabane was devoid of moths this particular night and is generally much less popular.

Below, I take the opportunity of reporting a few of my observations of moths nectaring at native flowers. I have selected them on the basis that the moth or the

native plant is not one of those usually quoted elsewhere. Unfortunately, until, if ever, all my notes are entered onto a data-base, much information has proved too time-consuming to retrieve at present. This problem will be familiar to many of us. We all need several life-times to adequately process the data we can collect in the field. Hopefully others with time and interest might assemble more extensive tables from their own field notes. I would urge compilers of county lists to include as much of this type of information as possible, in addition to locally obtained larval foodplant records and other such detail, because county lists can provide a marshalled repository for this information. Species-specific ecological observations of all types are increasingly of interest now that more effort is being directed at surveying moths and managing habitats to conserve them.

Table: Selected interesting nectaring records (see text)

Moth	Flower visited dusk onwards	Date
Silver Y <i>Autographa gamma</i>	Common Hawthorn <i>Crataegus monogyna</i>	Late May
Maiden's Blush <i>Cyclophora punctaria</i>	Alder Buckthorn <i>Frangula ulnus</i>	Late June
Common Emerald <i>Hemitea aestivaria</i>	Wild Privet <i>Ligustrum vulgare</i>	Mid July
Mottled Beauty <i>Alcis repandata</i>	Wild Privet <i>Ligustrum vulgare</i>	Mid July
Common Wave <i>Cabera exanthemata</i>	Wild Privet <i>Ligustrum vulgare</i>	Mid July
Scallop Shell <i>Rheumaptera undulata</i>	Valerian <i>Valeriana officinalis</i> by day (13.00 hours)	Mid July
Dark Umber <i>Rheumaptera undulata</i>	Creeping Thistle <i>Cirsium arvensis</i>	Late July
Brimstone <i>Opisthograptis luteolata</i>	Wild Parsnip <i>Pastinaca sativa</i>	Early August
Birch Mocha <i>Cyclophora albipunctata</i>	Common Ragwort <i>Senecio jacobaea</i>	Early August
Yellow Shell <i>Campogramma bilineata</i>	Betony <i>Stachys officinalis</i>	Early August

For those who have a garden "at their command" as Tutt put it, rather characteristically, nectar plant information can also be used as a guide as to what to plant to attract moths, somewhat as advised by L. Hugh Newman in his classic

“Creating a butterfly garden” and by other authors of numerous later works. The most popular among the nectar plants I grow in my own slightly alkaline garden with Lepidoptera in mind, are Goat Willow, Marjoram *Origanum vulgare*, Buddleia, Hemp Agrimony, Fleabane and Lavender *Lavandula* spp. and all reward inspection for moths after dark.

On mothing at sallow catkins

When Tutt and others refer to “sallowing” for moths they are mostly concerned with nocturnal inspecting and beating of the catkins of the Goat Willow *Salix caprea*, which I have found to be by far the most attractive sallow for nectaring moths. Some of the trees produce the familiar yellow male catkins, other trees produce the greener female catkins. As Tutt observed, both the male and female catkins are attractive to moths. Moths often get some of the pollen on their bodies and can visit in such numbers that they must provide an important means of pollination. I have noticed that the green female catkins have a faint but fragrant scent, but you may need to hold the catkin to your nose to detect it. On some nights I have seen several dozen nectaring moths of the genus *Orthosia* on sallow catkins by the light of my torch beam, and have had more than fifty by gently tapping a catkin-laden branch over my beating tray. Usually there are a few Red Chestnut *Cerastis rubricosa* amongst the Quakers and Drabs, and there is always the chance of a more unusual species. As Tutt reported over one hundred years ago, the density of moths visiting sallow catkins is usually greatest where sallow trees are thinly scattered, rather than where they occur in large groups, and the largest numbers of moths are seen on the edges of woodland and mature scrub, rather than in very open conditions. The moths begin to arrive from dusk and accumulate in the first hour or two of darkness.

Moths visiting Ivy flowers

Ivy is an important nectar source and a major attractant for moths at a time of the year when there are likely to be few other nectar flowers in the vicinity. In *Br. J. ent. Nat. Hist.* **16**: 51-53, Martin Townsend and I reported how we recorded 14 species of moths at a clump of flowering Ivy on 23 September 2000 at the Rushy Meadows SSSI in Oxfordshire. Seven of these species were not seen at any of the six mercury vapour light-traps which were operated on the site that night. We also reported that there was a progression of different species to the ivy during the course of the night, with several not arriving until after 01.00 hours.

Moths visiting Buddleia

The summer of 2003 seemed to me to be a particularly good one for seeing moths feeding at flowers after dark. This may have been a consequence of the many warm dry nights, in southern Britain, coupled with occasional rain, such that the vegetation did not become too dry and nectar flow was maintained. A particularly sight was recording between twenty and thirty Silver Y moths *Autographa gamma* most actively visiting a single bush of *Buddleia davidii* at dusk on the hot night of 6 August 2003 (27°C at dusk, 15°C minimum night temperature) at our local allotments in Werrington, Peterborough. With individual moths making short

looping flights to other flowers on the bush, and with several individuals doing so at any one time, illuminated by a nearby yellow sodium street-light, the bush looked just like a firework splitting sparks!

This publication was prepared in my new appointment as part-time Reader at Writtle College, University of Essex. I am most grateful to Writtle College for the financial support to enable me to prepare these and other moth data for publication and to initiate new lines of moth research. — PAUL WARING, Reader, Writtle College. Address for correspondence: Windmill View, 1366 Lincoln Road, Werrington, Peterborough, PE4 6LS. (E-mail: paul_waring@btinternet.com).

Applications for permits to collect Lepidoptera in Spain for scientific purposes

There seems to be a good deal of confusion amongst British entomologists concerning the scientific study of butterflies and moths in Spain. The purpose of this note is to clarify matters as they stand at November 2004.

The starting point is that collecting without a permit is illegal; this *appears* to include using a net even if specimens are not retained. However, permits are obtainable if the rules are followed and if sufficient time is allowed for the advance applications for permits. To stand any chance of being successful, you must ideally belong to *SHILAP* (Sociedad Hispano-Luso-Americana de Lepidopterologica). This Society it is open to all persons and institutions with interest on the study of the Lepidoptera all over the World. The annual subscription is paid at the beginning of the year and is €60.10 for the Fellows and €150.25 for institutions. You may pay by Postal Money Order, with credit card or by bank-transfer provided that there is no cost to SHILAP. Payment request should be made to the SHILAP account at Bank Bilbao Vizcaya Argentaria [Madrid] (bank code IBAN ES06 0182 1216 2802 0151 5543). The postal address of the society is SHILAP, Apartado de Correos 331, E-28080 Madrid, Spain and the e-mail address of the Director is *avives@eresmas.net*. In addition to being able to apply for permits, Fellows also receive the journal *Revista de Lepidopterologia*. Permit applications must satisfy the following conditions:

1. SHILAP's annual fee must be paid before applying for the permits.
2. A letter applying for the permit must be addressed to the General Secretary of SHILAP, including name, surname, address, Passport number, telephone number and fax number with country code and prefix, and/or e-mail address. This must reach the General Secretary **at least 45 days in advance** of the foreseen collecting activity.
3. The following data must be provided – the proposed collecting area (province and/or autonomous community), expected dates (days, months, even the whole year), collecting methods (entomological net, generator, etc), taxonomic groups of interest to be collected (species, genera, families and/or superfamilies) and any other data the applicant wishes to add.